

REMARKS

Claims 11-20 were previously pending in the application. By the Amendment, Claims 11-15 and 18-20 are currently amended, new Claim 21 is added, and Claims 16 and 17 remain unchanged. Reconsideration in view of the above amendments and the following remarks is respectfully requested.

The claims stand rejected under the cited prior art of record. Specifically, Claims 11, 15-18 and 20 were rejected under 35 USC §102(b) as being anticipated by Tilmanis (U.S. Patent No. 3,839,878). Claims 12-14 and 19 were rejected under 35 USC §103(a) as being unpatentable over Tilmanis. Claims 11 and 20 were further rejected as being in conflict with claims 10-12 and 17 of co-pending Application No. 10/551,561.

Objection to claim 20

With reference to the objection to claim 20 in paragraph 2 of the Office Action, claim 20 has been amended according to the Examiner's suggestion, which is acknowledged with appreciation. Withdrawal of the objection is requested.

Claims 11, 15-18 and 20

Independent claim 11 defines a refrigeration device including a thermally insulated housing enclosing an inner chamber and an air passage separate from and communicating with the inner chamber. An evaporator is arranged in the air passage. A heating device is provided for heating the evaporator, and a control circuit is provided for controlling operation of the heating device. A measuring device is arranged in the air passage to provide a measured signal representative of air flow through the air passage. The control circuit activates the heating device when the air flow falls below a predetermined threshold value.

Tilmanis discloses an automatic defrosting system for refrigerators and the like. The system includes two thermistors 36, 38 that serve as temperature sensors. In this manner, the system senses the temperature of the evaporator coil (via thermistor 36) and the temperature of a storage space of the refrigerator

(via thermistor 38) and automatically initiates operation of the defrost apparatus when the difference between the two temperatures exceeds a predetermined value. Tilmanis describes that as frost builds up on the evaporator coil, it exercises a progressively increasing insulating effect, so that eventually the rate of heat inflow to the storage space exceeds the rate at which heat is extracted therefrom by the evaporator. It is clear then from the express teachings in Tilmanis that the Tilmanis structure monitors *temperatures* to determine whether a defrost operation should be initiated. In contrast, claim 11 defines a measuring device arranged in the air passage that provides a measured signal representative of air flow through the air passage. Nowhere does Tilmanis remotely disclose that the thermistors 36, 38 are capable of providing a signal representative of air flow through the air passage. For at least this reason, Applicants respectfully submit that the rejection is misplaced.

In addition, claim 11 recites that the measuring device is arranged in said air passage. Tilmanis, in contrast, discloses that at least one of the thermistors 36, 38 (thermistor 38 as shown) is arranged within the food storage chamber 12. Since anticipation under 35 U.S.C. §102(b) requires each and every feature of the claimed invention to be disclosed in a single prior art reference, and since at least this feature is also lacking in Tilmanis, Applicants submit that for this reason also, the rejection of independent claim 11 is misplaced.

With regard to dependent claims 15-18, Applicants submit that these claims are allowable at least by virtue of their dependency on an allowable independent claim. Additionally, claim 15 recites that the measuring device includes two temperature sensors which are thermally differently closely coupled to at least one of a heat source and a sink and the air in said passage indicative of air flow speed. Claim 16 recites that the heat sink is the evaporator. The thermistors 36, 38 in Tilmanis, in contrast, are respectively disposed in contact with the evaporator and in the storage chamber. Since this subject matter is also lacking in Tilmanis, Applicants submit that these dependent claims are allowable.

Independent claim 20 defines a method for controlling the defrosting evaporator in a refrigeration device. The method includes a step of estimating an air flow through said air passage in which said evaporator is arranged. Nowhere does the Tilmanis patent even remotely disclose a step of estimating an air flow through an air passage in which its evaporator is arranged. Rather, as noted above, Tilmanis discloses the use of thermistors 36, 38 to measure a difference in the temperatures between the evaporator coil and the storage space. Since at least this step is missing in the Tilmanis patent, Applicants submit that the rejection of independent claim 20 is also misplaced.

Reconsideration and withdrawal of the rejection are respectfully requested.

Claims 12-14 and 19

Initially, Applicants submit that these claims are allowable at least by virtue of their dependency on an allowable independent claim. Moreover, the Office Action recognizes that Tilmanis lacks the claimed measuring device comprising a body driven to move by the air flow in the passage and a sensor to record the movement of the body indicative of air flow speed. The Office Action additionally references that Tilmanis lacks the claimed elastic element which can be deflected from a rest position by the air flow in the passage. Still further, the Office Action recognizes that Tilmanis lacks the measuring device including a pressure sensor to measure a dynamic air pressure in the passage indicative of air flow speed. In this context, however, the Office Action contends that "a simple substitution does not render claims patentable over prior art, and it would have been obvious . . . to implement any of these sensors in place of the paired temperature sensors disclosed by Tilmanis." Applicants respectfully submit, however, that this conclusion is misplaced. As noted above, Tilmanis does not in any manner disclose or suggest any structure that provides a measured signal representative of air flow through an air passage. Rather, Tilmanis merely

monitors a temperature difference between the evaporator coil and the storage space. Tilmanis simply does not remotely address air flow in the passage.

Applicants respectfully submit that that Office Action's conclusion amounts to improper hindsight. That is, it is hindsight to modify the temperature sensors in Tilmanis for detecting temperature differences between the evaporator and the storage space to a measuring device arranged in the air passage for providing a measured signal representative of air flow through the air passage.

With regard to claim 19, the Office Action recognizes that Tilmanis does not disclose a second temperature sensor arranged on an output of the channel terminating in the inner chamber. The Office Action concludes, however, that "it would have been an obvious mechanical expedient . . . to rearrange the existing parts to place the second temperature sensor on an output of the channel terminating in the inner chamber in order to ensure that the temperature sensed by the second temperature sensor is not rendered inaccurate by proximity to frozen items in the freezer." Applicants respectfully disagree with this contention. Nothing in Tilmanis suggests the desirability of positioning the thermistor 38 on an output of the channel in which the evaporator is positioned. This modification contrasts the express teachings in Tilmanis of operating the defrost apparatus based on a temperature difference between the evaporator coil and the refrigerator storage space.

Reconsideration and withdrawal of the rejection are respectfully requested.

Double Patenting

The Office Action contends that claims 11-20 of this application "conflict with claims 10-12 and 17" of co-pending U.S. Patent Application 10/551,561. This contention is respectfully traversed. At a minimum, independent claim 11 in the present application defines a measuring device arranged in the air passage to provide a measured signal representative of air flow through the air passage. In a similar context, claim 20 defines a step of estimating an air flow through the

air passage in which the evaporator is arranged. No such structure or methodology is disclosed or claimed in the noted co-pending application. At least these features of the invention define a clear line of demarcation between the noted applications. Withdrawal of the rejection is thus respectfully requested.

New Claim 21

Claim 21 has been added and defines a refrigeration device where a measuring device is disposed in the air passage. In this context, the measuring device is directly displaceable by air flow through the air passage. The control circuit communicates with the measuring device and activates the heating device when the air flow through the air passage falls below a predetermined threshold value. Support for this subject matter can be found in the specification at, for example, page 5, line 29 through page 8, line 16. Since Tilmanis lacks any structure that is directly displaceable by air flow through the air passage, Applicants submit that claim 21 is also distinguishable from Tilmanis.

CONCLUSION

In view of the above, entry of the present Amendment and allowance of Claims 11-21 are respectfully requested. If the Examiner has any questions regarding this amendment, the Examiner is requested to contact the undersigned. If an extension of time for this paper is required, petition for extension is herewith made.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'J. Howard', is written over the printed name.

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